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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,716	11/21/2001	Mitsuo Ukechi	KPO103	3912
25271	7590	03/17/2004	EXAMINER	
GALLAGHER & LATHROP, A PROFESSIONAL CORPORATION 601 CALIFORNIA ST SUITE 1111 SAN FRANCISCO, CA 94108			VALENTIN, JUAN D	
			ART UNIT	PAPER NUMBER
			2877	

DATE MAILED: 03/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/990,716	UKECHI, MITSUO	
	Examiner	Art Unit	
	Juan D Valentin II	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>06/27/2003</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-12 rejected under 35 U.S.C. 102(b) as being fully anticipated by Lin et al. (USPN '246, hereinafter Lin).

Claim 1

Lin in conjunction with Fig. 5, discloses an optical coupling device 10 comprising at least two optical elements 22, and an anisotropic light-guiding member 14 formed by a periodic two- or three-dimensional arrangement (Fig. 3) of two or more kinds of dielectric materials of different dielectric constants to develop a photonic band gap to inhibit the propagation of light in directions except a particular one, said anisotropic light guiding member being disposed between said at least two optical elements (col. 5, line 31-col. 6, line 15 & col. 9, lines 21-38).

Claim 5

Lin discloses wherein the sizes of said dielectric materials of said anisotropic light guiding member and the pitch of the periodic arrangement of said dielectric materials are sub micron (col. 5, line 62-col. 6, line 15).

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Claim 9

Lin disclose a device wherein said anisotropic light guiding member is formed by periodically arranging a particular kind of dielectric material molded in spherical, columnar, prismatic or thin film form and filling their gaps with a different kind of dielectric material (col. 7, lines 8-40).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2-4 rejected under 35 U.S.C. 103(a) as being unpatentable over Lin.

Claims 2-4

Lin discloses the photonic crystal may perform any type of interaction with an optical wave such as transmitting and receiving (col. 9, lines 2-30). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a single mode optical fiber in place of the EM waveguide since the Examiner takes Official notice of the equivalence of a single mode optical fiber and an EM waveguide for their use in optical communication as tools to transmit and receive optical signals, and the selection of any of these known equivalents would be within the level of ordinary skill in the art. Further, it would be obvious to one having ordinary skill in the art at the time of the claimed invention to use the photonic crystal to couple light emitted from a optical source i.e. laser diode into a optical fiber.

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Claims 6-8

Lin discloses wherein the sizes of said dielectric materials of said anisotropic light guiding member and the pitch of the periodic arrangement of said dielectric materials are sub micron (col. 5, line 62-col. 6, line 15).

Claims 10-12

Lin disclose a device wherein said anisotropic light guiding member is formed by periodically arranging a particular kind of dielectric material molded in spherical, columnar, prismatic or thin film form and filling their gaps with a different kind of dielectric material (col. 7, lines 8-40).

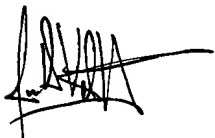
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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan D Valentin II whose telephone number is (571) 272-2433. The examiner can normally be reached on M-Th., Every other Fr..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Juan D Valentin II
Examiner 2877
JDV
March 3, 2004



Michael P. Stafira
Primary Patent Examiner
Technology Center 2800